Newsletter

2st Issue (April – June 2015)



Berhan Teklu



Arrived Wageningen the beginning of April, I have been working on monitoring paper on a lake found in Ethiopia. Currently an abstract has been submitted to a journal EPR (Environmental Pollution Research) for the special issue in Ecotoxicology in tropical regions. And wring the paper for submission is on progress, another thing I did the past three months was attending the SETAC conference in Barcelona, Catalonia, Spain, from 3-7 May 2015. It was quite an experience and I presented a paper on surface water risk assessment of pesticides in Ethiopia and attended a poster prepared by Mechteld under the title 'PRIMET_Registration_Ethiopia_1.1 A Decision Support System for assessing Pesticide Risk in the tropics to Man, Environment and Trade, for pesticide registration in Ethiopia' ; one of the outputs of PRRP Ethiopia. Currently working hard to finalize my paper for submission, I pray that I meet the deadline....

Concillia Monde

It's been quite some busy 10 months in the field collecting data. I spent most of my time in the laboratory performing experiments involving predator/prey interactions. I was specifically looking at trophic interactions among African catfish/Australian redclaw crayfish and B.globosus/M. tuberculata. I also tested the effect of pesticide pollution on these trophic interactions. I am now in the process of making sense of the results of these experiments. Back in the Netherlands since beginning of June and thank God



the weather is just so Zambian at the moment. I am enjoying it while it lasts. Going forward, I hope to write my two papers and hopefully to start compiling my thesis. Quite a daunting task if you ask me but I am optimistic.

Jidapa Khatikarn (Jugk)

I enjoyed working on different activities in the past three months. I was a teaching assistant for Chemical Stress Ecology and Risk Assessment course mainly on the practical part while I also worked in the lab to finish triclosan extraction from sediment microcosm samples. Besides, I have started working on data analysis of triclosan toxicity tests which I now write a paper out of it.



In the coming months, I will be attending the World Congress on Risk 2015, 19-23 July, in Singapore organised by The Society for Risk Analysis. I will give an oral presentation on "Ecological impacts of the antimicrobial triclosan on freshwater communities in tropical microcosms" in a session of "Ecological Risk Assessment in Tropical Asia-Pacific and Other Regions of the Pacific Basin." After the conference, I will have two weeks of holidays in Thailand, it is time to gather with my family and friends again :)

Lara Hermann

This is already my sixth month working on my Master thesis about the combined effect of drought and the fungicide fluazinam on aquatic ecosystem. The past few months were quite adventurous with both experiences in the laboratory and in the field at the Sinderhoeve. My adventure started in the laboratory where I was able to design 20 aquaria divided over 1 control group and 3 experimental groups; e.g. to test the effect of solely drought, solely the effect of fungicide fluazinam and the combined effect of drought and fluazinam on the ecosystem. To create a nice ecosystem in the aquaria



I went on hunting expeditions together with John to collect *Asellus aquaticus* and *Gammarus pulex*, which was great. After hours of measurements, identifications of zooplankton etc. I now start to collect interesting data. In the meantime I was also working on starting up and establishing cosms at the Sinderhoeve with the same experimental groups as described above. Since the the cosms at the Sinderhoeve are a lot bigger, also a lot more water needed to be removed from the drought groups, e.g. 50 liter per day, I now call myself a professional bodybuilder as well. Since several weeks Maxime joined the club and inherited these beautiful cosms. During the next two months I will mainly focus on analyzing my data and wrapping up my thesis. Overall, a great experience until now!

Lucas Bueno Mendes

After a four months stay of in the Netherlands I'm back to Brazil. The objectives outlined for the period were achieved: learning about the analyzes developed and used at Wageningen University and writing a part of my thesis. Currently, I have applied the analysis I've learned in the Netherlands in the studies that have been developed here in Brazil and I've been helping my colleagues learn them too. I am now finalizing the last details of my thesis. Soon it will be done!



I would like to thank immensely the opportunity to meet some of the work done at the University of Wageninegen and would also like to invite you to meet our Aquatic Ecosystem research group, NEEA-USP, Núcleo de Estudos em Ecossistemas Aquáticos, at the University of São Paulo in São Carlos city.

Maxime Kole



Hi, I am Maxime and I started my 2nd master thesis at the research group AEW under supervision of Paul van den Brink. I did my bachelor Biology at the University of Wageningen. I started my master Biology three years ago with two specializations; 'Behavioural and Adaptation Biology' and 'Conservation and System ecology'. The last half year I finished my internship at Koppert Biological Systems and the course Laboratory Animal Science at Wageningen University. This thesis is the last part before my graduation. I will continue with the microcosm project, on the Sinderhoeve, of Lara and try to determine whether there is an effect of drought in combination with a fungicide on freshwater ecosystem functioning. Furthermore, I will start my own experimental setup. For now I am reading literature to improve my background and gather data from the microcosm experiment at the Sinderhoeve.

Ming Sun

In the past four months, I finished the toxicity experiment of enrofloxacin and triclosan in three aquatic organisms (*Gammarus pulex, Cloeon dipterum, Radix peregera*), and finished analyzing the data. Also, I tried two methods to do the recovery test of the two chemicals from animals. After getting the results of recovery test, I will continue with the toxicokinetics of enrofloxacin and triclosan in the three organisms. At the same time, I finished writing my PhD thesis



focused on residue and risk assessment of sulfamethazine in shrimp aquaculture in China and the paper about evaluation of the environmental fate and risks of antimicrobials used in *Fenneropenaeus chinensis* aquaculture production in China. I am planning to submit it at the beginning of July. In the coming three months, it will be very busy for me to finish all the experiments before I leave Wageningen University.

Paul Van den Brink



April ended in a great way with a study trip with the staff of the AEW group to the Greece part of the Prespa lakes national park to study the changes in water quality of the lakes (see photo). The Prespa lakes are located in the Greece, Albania and Macedonia and are, among other, important for migratory birds and have an indigenous pelican population. A great trip to an interesting region of Europe which is not very known and visited, but I can surely recommend it! The beginning of May was filled with the SETAC meeting in Barcelona. Next to the conference I was also involved in the SETAC Global Horizon Scanning workshop that aimed to select the 20 top research questions of the research area covered by SETAC. At this moment (end June) I am visiting the SASAqS (Southern African Society of Aquatic Scientists) and just gave a keynote on "Diagnosis of field impacts of chemicals from monitoring and experimental data". It was good to see old friends again in this beautiful place close to the Drakensberg.

Student-wise, Lara started in May an outdoor microcosm experiment on the combined effect of drought and chemical stress on aquatic ecosystem functioning, which is now taken over by Maxime Kole who started her MSc thesis at the beginning of June on the same subject. Chenwen Wang finished her internship with Andreas Focks and Andreu Rico at Alterra in June on "Validating existing ecological population models for chemical risk assessment" while Shuozhao Sun started her internship at the Applied Marine and Estuarine Ecology Lab of the University of New South Wales, Sydney, Australia on Assessing changes in benthic sediment characteristics in association with storm water inputs and Muzhi Sun started his internship with Hans Baveco at Alterra on "Modeling single-species population dynamics and food web dynamics at large spatial scales".

Now I will use July and August to empty my mailbox and shorten the list of papers and proposals. I will be on holidays the last week of August and the first two weeks of September. Wish you all a great summer break!

Rahmat Quaigrane Duker



The past few months into my thesis work has been quite interesting and I am happy to share with you how far I have gone with my work. My work is basically in two parts: a 96 hour (h) toxicity test on *G. pulex, C. dipterum, P. acuta* in different concentrations of enrofloxacin and triclosan at different pH; and the toxicokinetics of these chemicals in the various organisms. Together with Ming, we have successfully finished with the 96h toxicity test. ECs and LCs have been calculated for enrofloxacin and the result helped us to perform the recovery test of enrofloxacin. Currently, we are about to analyze the result of the recovery test to assist us in performing the

second part of this thesis work (toxicokinetics) of enrofloxacin. We are also yet to analyze the ECs and LCs of triclosan.

We hope to finish all laboratory work and HPLC analysis by the end of July, 2015. With this, I can have two months ample time to finish all other statistical analyses and write-up of the whole thesis work.

The most important thing for me, is the fact that I still have interest in what I am researching on and hope to give out my best. Wishing all of you success in your diverse research works and enjoyable summer holidays.

The Stress Group

Recent publications

Morselli, M., M. Semplice, F. De Laender, P.J. Van den Brink and A. Di Guardo (2015). Importance of environmental and biomass dynamics in predicting chemical exposure in ecological risk assessment. Science of the Total Environment. 526: 338-345.

Aazami, J., A. Esmaili Sari, A. Abdoli, H. Sohrabi and P.J. Van den Brink (2015). Assessment of ecological quality of the Tajan river in Iran using a multimetric macroinvertebrate index and species traits. Environmental Management 56:260–269

Del Arco, A.I., G. Parra, A. Rico and P.J. Van den Brink (2015). Effects of intra- and interspecific competition on the sensitivity of aquatic macroinvertebrates to carbendazim. Ecotoxicology and Environmental Safety 120: 27 – 34.

Aazami, J., A.E. Sari, A. Abdoli, H. Sohrabi and P.J. Van den Brink (2015). Assessment of ecological water quality by physicochemical, fish and macroinvertebrates indices in Tajan river, Iran. Journal of Environmental Health Science and Engineering 13: 29

Szöcs, E., P.J. Van den Brink, L. Lagadic, T. Caquet, M. Roucaute, A. Auber, Y. Bayona, M. Liess, P. Ebke, A. Ippolito, C.J.F. Ter Braak, T.C.M. Brock and R.B. Schäfer (2015). Analysing chemicalinduced changes in macroinvertebrate communities in aquatic mesocosm experiments: A comparison of methods. Ecotoxicology 24: 760-769

Augusiak, J. and P.J. Van den Brink (2015). Studying the movement behaviour of benthic macroinvertebrates with automated video tracking. Ecology and Evolution 5: 1563–1575